

**ABSTRACT**

The invention is applied to the field of industrial controls for electric motors and more precisely refers to a process for measuring phase currents of an inverter or a DC controller consisting in detecting the temperature of a copper path made with IMS (Insulated Metal Substrate) technology and the like, used as shunt and that is the extension of a pre-existing adduction line towards a motor or towards the supply line or towards power devices, and in compensating through software the path drop in order to have an accurate measure of the current crossing it. A heat sensor is applied next to or over such copper path to detect its temperature. This latter one will also be assumed, with an acceptable degree of approximation, as the power transistors temperature.